

WHAT IS CLAIMED IS:

1. A multilayer ceramic substrate with a cavity comprising:
 - a multilayer composite member including a plurality of ceramic layers disposed one on another;
 - a cavity formed in the multilayer composite member such that an opening of the cavity is located in at least one principal surface of the multilayer composite member;
 - a bottom-surface conductive film disposed on a bottom surface of the cavity;
 - an electronic component disposed in the cavity; and
 - a capacitor conductive film disposed in the multilayer composite member such that the capacitor conductive film faces the bottom-surface conductive film via at least one ceramic layer.
2. The multilayer ceramic substrate with a cavity according to claim 1, wherein a ground potential is applied to the bottom-surface conductive film.
3. The multilayer ceramic substrate with a cavity according to claim 1, wherein the electronic component is adhered on the bottom-surface conductive film via a non-conductive adhesive.

4. The multilayer ceramic substrate with a cavity according to claim 1, wherein the electronic component is electrically connected to the bottom-surface conductive film.

5. The multilayer ceramic substrate with a cavity according to claim 1, wherein the bottom-surface conductive film is disposed so as to extend into the inside of the multilayer composite member across an edge of the bottom surface of the cavity.

6. The multilayer ceramic substrate with a cavity according to claim 1, wherein the bottom-surface conductive film is disposed so as to extend on the bottom surface of the cavity and within the inside of the cavity.

7. The multilayer ceramic substrate with a cavity according to claim 1, wherein the capacitor conductive film is disposed so as to face the bottom-surface conductive film via a single ceramic layer.

8. The multilayer ceramic substrate with a cavity according to claim 1, wherein the capacitor conductive film is constructed in the shape of a strip-line such that distributed constant capacitance is defined between the capacitor conductive film and the bottom-surface conductive film.

9. The multilayer ceramic substrate with a cavity according to claim 1, wherein an external terminal electrode, which is to be electrically connected to a mounting mother board when the multilayer ceramic substrate is mounted on the mounting mother board, is formed on an outer surface of the multilayer composite member, and the bottom-surface conductive film is electrically connected to the external terminal electrode.

10. The multilayer ceramic substrate with a cavity according to claim 1, wherein when the multilayer ceramic substrate is mounted on a mounting mother board, the principal surface of the multilayer composite member with the cavity comes into contact with the mounting mother board.

11. The multilayer ceramic substrate with a cavity according to claim 1, wherein when the multilayer ceramic substrate is mounted on a mounting mother board, the principal surface of the multilayer composite member opposite the principal surface with the cavity comes into contact with the mounting mother board.

12. The multilayer ceramic substrate with a cavity according to claim 1, further comprising a second bottom-surface conductive film disposed on a bottom surface of the cavity.

13. The multilayer ceramic substrate with a cavity according to claim 1, further comprising a second capacitor conductive film disposed in the multilayer composite member such that the capacitor conductive film faces the bottom-surface conductive film via at least one ceramic layer.

14. The multilayer ceramic substrate with a cavity according to claim 1, further comprising:

a second bottom-surface conductive film disposed on a bottom surface of the cavity; and

a second capacitor conductive film disposed in the multilayer composite member such that the capacitor conductive film faces the bottom-surface conductive film via at least one ceramic layer.

15. The multilayer ceramic substrate with a cavity according to claim 13, wherein at least one of the capacitor conductive film and the second capacitor conductive film is strip-line shaped.

16. The multilayer ceramic substrate with a cavity according to claim 14, wherein at least one of the capacitor conductive film and the second capacitor conductive film is strip-line shaped.

17. The multilayer ceramic substrate with a cavity according to claim 1, wherein the capacitance between the capacitor conductive film and the bottom-surface conductive film is adjusted by removing an area of the bottom-surface conductive film.

18. The multilayer ceramic substrate with a cavity according to claim 17, wherein the area of the bottom-surface conductive film is removed by one of trimming and cutting.

19. The multilayer ceramic substrate with a cavity according to claim 1, further comprising an inductor conductive film disposed in the multilayer composite member such that the capacitor conductive film faces the inductor conductive film via at least one ceramic layer.

20. The multilayer ceramic substrate with a cavity according to claim 19, wherein the inductor conductive film, the capacitor conductive film, and the bottom-surface conductive film define a series resonant circuit.